Manual & Automation Testing - Comparison Guide

Topic	Difference
Local Variable vs Global Variable	Local: Declared inside method, limited scope | Global: Declared in class, accessible everywhere
Primitive vs Non-Primitive Datatype	Primitive: Simple values (int,char) | Non-Primitive: Objects (String, Array)
Looping vs Conditional Statements	Looping: Repeats code | Conditional: Decision making
throw vs throws	throw: Used to throw exception | throws: Declares exception
this vs super	this: Current class | super: Parent class
final vs finally	final: Constant | finally: Cleanup block
Method Overloading vs Method Overriding	Overloading: Compile time | Overriding: Runtime
Static vs Non-Static	Static: Belongs to class | Non-Static: Belongs to object
Array vs ArrayList	Array: Fixed | ArrayList: Dynamic
break vs continue	break: Exit loop | continue: Skip iteration
Abstract Class vs Interface	Abstract: Both methods | Interface: Abstract only
HashSet vs HashMap	HashSet: Values only | HashMap: Key-value
List vs Set	List: Duplicates | Set: Unique
equals() vs ==	equals(): Compares values | ==: Compares references
StringBuffer vs StringBuilder	Buffer: Thread-safe | Builder: Faster
implements vs extends	implements: Interface | extends: Class
Checked vs Unchecked Exception	Checked: Compile time | Unchecked: Runtime
Comparable vs Comparator	Comparable: Natural order | Comparator: Custom order
ArrayList vs LinkedList	ArrayList: Fast read | LinkedList: Fast insert/delete
Array vs Collection	Array: Fixed | Collection: Dynamic
Collection vs Collections	Collection: Interface | Collections: Utility class
Upcasting vs Downcasting	Upcasting: Parent ref | Downcasting: Child ref
Constructor vs Method	Constructor: Initialize | Method: Execute logic
Generic vs Non-Generic Collection	Generic: Type-safe | Non-Generic: Not type-safe
while vs do-while	while: Check first | do-while: Executes once
Exception vs Error	Exception: Recoverable | Error: Irrecoverable
findElement vs findElements	findElement: One element | findElements: List
getWindowHandle vs getWindowHandles	Single ID | Multiple IDs
Implicit vs Explicit vs Fluent Wait	Implicit: Global | Explicit: Specific | Fluent: Polling
get vs navigate	get: Open URL | navigate: Back, forward
close vs quit	close: One tab | quit: All tabs
Hard Assertion vs Soft Assertion	Hard: Stops | Soft: Continues
FileInputStream vs FileOutputStream	Read | Write
Absolute XPath vs Relative XPath	Absolute: From root | Relative: Flexible

XPath vs CSS Selector	XPath: Backward search | CSS: Fast
WebDriver vs ChromeDriver	Interface | Class for Chrome
Selenium 3 vs Selenium 4	S3: JSON wire | S4: W3C protocol
accept vs dismiss	accept: OK | dismiss: Cancel
Common vs Unique Locator	Common: Multiple elements | Unique: One element
REST API vs SOAP API	REST: JSON | SOAP: XML
API vs Web Services	API: Interface | Web Service: Internet-based
Query Parameter vs Path Parameter	Query: ?key=value | Path: /value
GET vs POST API	GET: Retrieve | POST: Create
PUT vs PATCH API	PUT: Full update | PATCH: Partial update
Authentication vs Authorization	AuthN: Identity | AuthZ: Permission
400 vs 500 Series	400: Client error | 500: Server error
UI Testing vs API Testing	UI: Front-end | API: Backend